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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/540,677

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Luzhou Xu

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

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BRIARCLIFF MANOR, NY 10510

EXAMINER

WILLIAMS, LAWRENCE B

ART UNIT

PAPER NUMBER

2611

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/540,677	<b>Applicant(s)</b> XU ET AL.	
	<b>Examiner</b> LAWRENCE B. WILLIAMS	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☒ Claim(s) 1,3-5,7 and 13-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### ***Specification***

2. The disclosure is objected to because of the following informalities:
- a.) The phrase "In order to conquer the disturbing of multiple accessing" in line 9 of pg. 3 is ambiguous.
  - b.) The phrase "is will" in line 8 of pg. 8 is ambiguous.
  - c.) The phrase "if it is succeed" in line 12 of pg. 8 is ambiguous.

Appropriate correction is required.

3. The examiner suggests applicant carefully review the claims for grammatical error. The examiner has presented a number of grammatical errors in the claims but the claims may not have been checked to the extent necessary to determine the presence of all possible minor errors.

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Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Objections***

4. Claim 1 is objected to because of the following informalities:

- a.) The examiner suggests “for a mobile terminal” in line 1.
- b.) Claim 1 recites the limitation "the signal" in line 3. There is insufficient antecedent basis for this limitation in the claim. The examiner suggests, “a signal”.
- c.) The examiner suggests “by a base station” in line 3.

Appropriate correction is required.

5. Claim 3 is objected to because of the following informalities:

- a.) Claim 3 recites the limitation "the power threshold" in lines 3 and 4. There is insufficient antecedent basis for this limitation in the claim. The examiner suggests, “a power threshold”.
- b.) Claim 3 recites the limitation "the signal" in lines 4. There is insufficient antecedent basis for this limitation in the claim. The examiner suggests, “a signal”.

Appropriate correction is required.

6. Claim 4 is objected to because of the following informalities: The examiner suggests “imaginary” instead of “image” in line 3. Appropriate correction is required.

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7. Claim 5 is objected to because of the following informalities: The examiner suggests “includes” instead of “including” in line 1. Appropriate correction is required.

8. Claim 7 is objected to because of the following informalities: The examiner suggests “includes the following” instead of “includes following” in line 1. Appropriate correction is required.

9. Claim 13 is objected to because of the following informalities:

- a.) The examiner suggests, “a TDD-CDMA system” in line 1.
- b.) The examiner suggests “comprises” instead of “comprising” in line 2.
- c.) The examiner assumes applicant meant “a power pulse searching means” in line 3.

Appropriate correction is required.

10. Claim 14 is objected to because of the following informalities:

- a.) The examiner suggests, “a power calculating device” in line 3.
- b.) The examiner suggests “a match template device” in line 5.
- c.) The examiner suggests “a power matching device” in line 7.

Appropriate correction is required.

11. Claim 15 is objected to because of the following informalities:

- a.) The examiner suggests, “wherein said power match” in line 1.

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b.) Claim 15 recites the limitation "the power threshold" in lines 3 and 4. There is insufficient antecedent basis for this limitation in the claim. The examiner suggests, "a power threshold".

Appropriate correction is required.

12. Claim 16 is objected to because of the following informalities: The examiner suggests "imaginary" instead of "image" in line 3. Appropriate correction is required.

13. The examiner suggests applicant carefully review the claims for grammatical error. The examiner has presented a number of grammatical errors in the claims but the claims may not have been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 112***

14. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

15. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which

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it is most nearly connected, to make and/or use the invention. Claim 1 cites the limitation, 'b. if a signal being similar to the downlink synchronization signal". The specification offers no support for this limitation. Page 8, beginning with line 3 discloses the method of claim 1. There is no mention of a signal being similar to the downlink synchronization signal.

16. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

17. Claim 1 recites the limitation "the downlink synchronization signal" in line 5. There is insufficient antecedent basis for this limitation in the claim.

18. Claim 1 recites the limitation "the downlink synchronous signals" in line 8. There is insufficient antecedent basis for this limitation in the claim.

19. Claim 1 recites the limitation "the whole time period" in line 11. There is insufficient antecedent basis for this limitation in the claim.

20. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 is poorly written. Step b. is ambiguous. Step b. reads, "if.... successfully, a coarse time synchronization parameter will be gained". As written the language implies that it is possible that a coarse time synchronization parameter will **not** be gained. Step d. cites "search a downlink synchronous signal". From the specification, the examiner assumes applicant is

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searching for a synchronization signal. The examiner suggests applicant rewrite the claim to particularly point out and distinctly claim the subject matter which applicant regards as the invention

Claims 2-12 are rejected based on their dependency upon rejected claim 1.

21. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 2 recites, "wherein step a includes the following steps: a2. calculating the power of received signals". Step a of claim 1 cites, "searching the signal", so it is unclear as to how in step a2, the power of **signals** can be calculated.

22. Claim 13 recites the limitation "the downlink synchronous signals" in line 7. There is insufficient antecedent basis for this limitation in the claim. Claim 13 recites the limitation "the work" in line 8. There is insufficient antecedent basis for this limitation in the claim. Claims 14-24 are rejected based on their dependency upon rejected claim 13.

23. Claim 14 recites the limitation "power pulse searching device" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. Claim 14 recites the limitation "the power match template" in line 6. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

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24. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

25. Claim is rejected under 35 U.S.C. 102(a) as being anticipated by Solve et al. (US Patent 6,353,645 B1).

(1) With regard to claim 1, Solve et al. discloses a cell searching method for mobile terminal in TDD-CDMA system, said method including the following steps: a. searching the signal transmitted by base station (Fig. 1, element 26) according to pulse power (col. 6, lines 9-40); b. if a signal being similar to the downlink synchronization signal is found successfully, a coarse time synchronization parameter will be gained (col. 6, lines 41-62); c. based on the coarse time synchronization parameter, open a time searching window, and search for the downlink synchronous signals in the said time window (col. 6, line 63-col. 7, line 14) and d. if it is failed in searching a downlink synchronous signal, search a downlink synchronous signal in the whole time period (col. 10, lines 59-67).

(2) With regard to claim 13, Solve et al. discloses a mobile terminal (Fig. 4) including a searching device for performing cell search in TDD-CDMA system, wherein the searching device comprising: a power pulse searching for getting a coarse time synchronous parameter by the signal emitted by pulse power searching base station (col. 6, lines 9-40, a power pulse searching means as disclosed by applicant is inherent); a correlation searching means for opening a time searching window based on the coarse time synchronous parameter, and searching the downlink synchronous signals in the said time window (col. 2, lines 41-62, correlation searching

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means as disclosed by applicant would be inherent); and a controlling means for controlling the work of the power pulse searching means and correlation searching means and defining their parameters (In view of the cited passages, controlling means as disclosed by applicant would be inherent).

***Claim Rejections - 35 USC § 103***

26. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

27. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Solve et al. (US Patent 6,353,645 B1) as applied to claim 1 above, and further in view of Dick et al. (US 2002/0075833 A1).

Claim 2 inherits all limitations of claim 1. As noted above, Solve et al. discloses all limitations of claim 1. Furthermore, Solve et al. also teaches calculating the power of received signals (col. 6, lines 9-40). Solve et al. does not explicitly disclose, wherein step a includes the following steps: a1. defining a match template; and a3. comparing all the received signals with the said match template, though Solve et al. does teach a power profiling.

However, Dick et al. teaches a method for periodic cell search wherein he teaches defining a match template; and a3. comparing all the received signals with the said match template (pg. 1, paragraph [0011]; Dick et al. uses a threshold as a match template).

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One of ordinary skill in the art at the time of invention would have been motivated to incorporate the teachings of Dick et al. as a method of optimizing the synchronization search.

***Allowable Subject Matter***

28. Claims 3-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

29. Claims 15-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

30. Claim 14 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

31. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a.) Lee et al. discloses Cell Search System For Mobile Station In time Division Duplex System And Method For The Same in US Patent 2003/0086401 A1.

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b.) Ma et al. discloses System Access And Synchronization Methods For MIMO OFDM Communications Systems And Physical Layer Packet And Preamble Design in US 2003/007255 A1.

c.) Li et al. discloses Method For Cell Initial Search In A CDMA Mobile Communication System in US 2003/0031238 A1.

d.) Tsuneki et al. discloses Cell Search Method And Circuit In W-CDMA System in 2002/0024942 A1.

e.) Iwamoto et al. discloses Spread Communication System And Mobile Station Thereof in US Patent 7,436,879 B1.

f.) Maruyama discloses Initial Synchronization Method In DS-CDMA Inter-Base Station Asynchronous Cellular Scheme in US Patent 6,965,586 B1.

32. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence B Williams whose telephone number is 571-272-3037. The examiner can normally be reached on Monday-Friday (8:00-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ghayour Mohammad can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lbw  
January 1, 2009

/Lawrence B Williams/

Primary Examiner, Art Unit 2611